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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO
09/899,157	07/06/2001	Masanari Asano	107317-00030	2825
4372 7590 04/24/2007 ARENT FOX PLLC 1050 CONNECTICUT AVENUE, N.W. SUITE 400 WASHINGTON, DC 20036			EXAMINER	
			NGUYEN, HAU H	
			ART UNIT	PAPER NUMBER
			2628	
SHORTENED STATUTOR	RY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE	
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Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

		Application No.	Applicant(s)			
Office Action Summary		09/899,157	ASANO, MASANARI			
		Examiner	Art Unit			
		Hau H. Nguyen	2628			
The MAILING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply						
A SHORTE WHICHEVE - Extensions of after SIX (6) N - If NO period fi - Failure to repl Any reply rece earned patent	NED STATUTORY PERIOD FOR REPLY ER IS LONGER, FROM THE MAILING DA time may be available under the provisions of 37 CFR 1.13 MONTHS from the mailing date of this communication. or reply is specified above, the maximum statutory period w y within the set or extended period for reply will, by statute, eived by the Office later than three months after the mailing term adjustment. See 37 CFR 1.704(b).	ATE OF THIS COMMUNICATION 36(a). In no event, however, may a reply be tim rill apply and will expire SIX (6) MONTHS from cause the application to become ABANDONEI	N. nely filed the mailing date of this communication. D (35 U.S.C. § 133).			
Status						
	Responsive to communication(s) filed on <u>13 February 2007</u> .					
·	This action is FINAL . 2b) This action is non-final.					
	Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.					
closed in accordance with the practice under Ex parte Quayle, 1955 C.D. 11, 455 O.G. 215.						
Disposition of	Claims					
4a) Of 5) ☐ Claim 6) ☑ Claim 7) ☐ Claim	In (s) 1-19 is/are pending in the application. If the above claim(s) is/are withdraw (s) is/are allowed. In (s) 1-19 is/are rejected. In (s) is/are objected to. In (s) are subject to restriction and/or					
Application Papers						
9)∏ The sp	pecification is objected to by the Examine	r.				
10)☐ The drawing(s) filed on is/are: a)☐ accepted or b)☐ objected to by the Examiner.						
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).						
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d). 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.						
Priority under	35 U.S.C. § 119					
a)□ All 1.□ 2.□ 3.□	wledgment is made of a claim for foreign b) Some * c) None of: Certified copies of the priority documents Certified copies of the priority documents Copies of the certified copies of the prior application from the International Bureau e attached detailed Office action for a list of	s have been received. s have been received in Application ity documents have been received (PCT Rule 17.2(a)).	on No ed in this National Stage			
	ferences Cited (PTO-892)	4) Interview Summary				
3) Information [oftsperson's Patent Drawing Review (PTO-948) Disclosure Statement(s) (PTO/SB/08) Mail Date	Paper No(s)/Mail Da 5) Notice of Informal Pa 6) Other:				

Application/Control Number: 09/899,157 Page 2

Art Unit: 2628

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 13, 2007 has been entered.

Claim Rejections - 35 USC § 103

- 2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 3. Claims 1-3, 5, 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beyers, Jr. et al. (U.S. Patent No. 5,534,942, Beyers, hereinafter) in view of Knox et al. (U.S. Patent No. 6,351,292, Knox, hereinafter).

As per claim 1, Beyers teach an image processing apparatus (Fig. 1), comprising: an image memory (video RAM 1513) including a first memory area (1513-1, Fig. 2) to store a first image group of a first image for a background (video data) (col. 4, lines 60-66), and a second memory area (1513-3) for storing a second image data group of a second image for an on-screen display (OSD bitmap 1513-3) (col. 5, lines 47-52);

Beyers also teach the first image data (video data) and the second image data (OSD data) read from the image memory (video RAM 1513) converted into a format to be displayed on a

Art Unit: 2628

display screen (col. 6, line 58 through col. 7, line 34). As also in Fig. 2, video data and OSD data are *separately* retrieved from the video RAM to be *separately* processed by the video display unit 1509-5, and the OSD display unit 1509-9, respectively. Thus, in the configuration as shown in Fig. 2, the memory controller 1509-3 (control section) reading the image data group from the first memory area 1513-1, and reading the second image data group from the second memory area 1513-3 *without intervening with any other memory area or buffer memory*.

Beyers fails to explicitly teach writing the first image data group and the second image data group in a display buffer. However, Beyers teach in a "superimpose" mode of operation, in which the graphic image is inserted within a video image, output multiplexer 1509-13 selects either the video image groups or the graphic image groups on a pixel by pixel basis (col. 7, lines 48-62). Thus, Beyers implicitly teach a display buffer in the multiplexer to store the first image group and the second image group to temporarily store video data and OSD data so as to correctly insert the OSD data at the assigned positions on the display screen.

Beyers fails to teach the control section includes a data expansion control section capable of selectively increasing a data amount of only the second image data group read from the image memory, according to the second image data group. However, this is what Knox teach. The teachings of Knox was given in the previous Office Action. In particular, Knox teach the OSD data is independent of the size and location of the active video area. Knox teach the line double mode for OSD data on col. 1, lines 49-65, wherein OSD messages are generated, OSD unit receives "x" lines of OSD data, and, in turn, displays "2x" lines of OSD data. Knox also teach the memory various frame buffers for storing frames of images and a display buffer for storing decoded images (col. 3, lines 4-10).

Art Unit: 2628

Therefore, it would have been obvious to a person of ordinary skill in the art at the time invention was made to modify Beyers with the feature "line doubling mode where each OSD line is repeated" as taught by Knox because it reduces the OSD bitstream size to be reduced resulting in lower bandwidth requirements.

Regarding claims 2 and 3, Beyers does not disclose data expansion control section including a magnification control for magnifying the OSD data. Knox et al. discloses OSD data magnification utilizing the "line doubling mode" (col. 5, lines 30-67). Therefore, it would have been obvious to a person of ordinary skill in the art at the time invention was made to modify Beyers with method as taught by Knox et al. because it reduces the OSD bitstream size to be reduced resulting in lower bandwidth requirements.

Regarding claim 5, although not explicitly taught by Beyers, Knox, as cited above, teach RAM 140 includes frame buffers for storing frames of images, thus, implying that the magnified second image data (OSD data) is stored in the frame buffer. Therefore, it would have been obvious to one skilled in the art to utilize the method of storing displayed frame in the frame buffer as taught by Knox in combination with the method as taught by Beyers such that both video data and OSD data reconstructed in the frame buffer are readily available for display.

As per claims 10 and 11, Beyers discloses OSD display unit 1509-9 (Fig. 2) converting the four-bit graphic image component representative words to eight-bit words by adding four binary "0s" as the least four significant bits to the four-bit words thereby increasing a number of bits of the second image data group (OSD data) (col. 6, lines 53-65); storage of such converted data into display buffer memory as cited above.

Art Unit: 2628

As per claim 12, Beyers teach the first processing to add data "0" to low-order bits of the second image data group... as cited above with reference to claim 11. Beyers also teach a second processing of smoothing processing to equalize the difference between data obtained from the first processing, the data being adjacent to each other on a display screen (...the video image...groups correspond to two pixels...the 4:2:0 image...groups are converted to...by interpolation within video display unit 1509-5...col. 5, lines 22-46).

As per claim 13, Beyers teach the bit converter section including a display information table containing a large number of display information items (such as color information) and address information items indicating addresses at which the display information items are respectively stored (where in the OSD storage 1513-3 in RAM 1531 the graphics component is stored) (col. 5, line 53 to col. 6, line 31), and

the second image data group includes a display position specifying information to specify a display position on the display screen and the address information (col. 4, lines 25-34).

As per claim 14, Beyers teach the display information table in rewritable (since the colors of a graphics image may be changed by changing the four bits of one of more component representing words of the header, depending on the nature of the graphics image to be displayed col. 6, lines 34-37).

As per claims 15 and 16, as cited above, Beyers teach the display information items are information items regarding colors to be displayed.

Claim 17, which is similar in scope to claim 1 above, is thus rejected under the same rationale.

Art Unit: 2628

Claim 18, which is similar in scope to claim 3 above, is thus rejected under the same rationale.

4. Claims 4 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beyers, Jr. et al. (U.S. Patent No. 5,534,942) in view of Knox et al. (U.S. Patent No. 6,351,292), and further in view of Shibamiya et al. U.S. Patent No. 5,926,174).

Regarding claim 4, Beyers-Knox combination is silent about wherein magnification control section adds a new data group obtained by conducting a linear interpolation for the second image data group to the second image data group. However, Shibamiya et al. discloses OSD (on-screen display) operations for displaying necessary information on the display unit 15 for facilitating various adjustments by the operator making use of interpolation circuit 125 (...the linear interpolation...the image data of the interpolated pixel is determined from the image data of the pixels on both sides of the interpolated pixel...col. 14, lines 20-30...the OSD data 118 is enlarged in a doubled size...the data is then enlarged into a doubled size...by the interpolation circuit 125...col. 23, lines 60-67; col. 24, lines 1-60). Therefore, it would have been obvious to a person of ordinary skill in the art at the time invention was made modify Beyers-Knox combination with the feature "linear interpolation for OSD data" as taught by Shibamiya et al. because it provides a more flexible OSD data display with different font size selection as per user input.

Claim 19, which is similar in scope to claim 4, is thus rejected under the same rationale.

Art Unit: 2628

5. Claims 6, 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beyers, Jr. et al. (U.S. Patent No. 5,534,942) in view of Knox et al. (U.S. Patent No. 6,351,292), and further in view of Suga et al. (U.S. Patent No. 6,215,4674).

Regarding claims 6, 7 and 9, Beyers-Knox combination does not disclose wherein the first image data group is magnified using a circuit included in the magnification control section. Suga et al. discloses a display control having a plurality of different display modes, and where OSD data is displayed according to different font sizes, shapes (...appropriately display OSD data in correspondence with display states with different image resolutions...driving conditions differences in various display modes can be absorbed, and the OSD data can be stably displayed...OSD data having a font size...corresponding to the enlarged or reduced size is used to maintain a desired size and shape...a plurality of types of image signals corresponding to different resolutions...OSD display operations matching the respective display modes can be attained...col. 1, lines 50-67; col. 2, lines 5-41). However, Suga et al. discloses background image being capable of being magnified as well as the OSD image (...processing in the case of 640 dots...as one display mode of a VGA...the horizontal...pixel period is sampled 1,280 times to enlarge the horizontal dots to 1,280 dots...2-line enlargement is performed...800 dots...VESA standard...col. 16, lines 1-60...Figs. 26A and 26B which show control for enlarging the character size in the display control apparatus...col. 19, lines 4-10; lines 45-60). Therefore, it would have been obvious to a person of ordinary skill in the art at the time invention was made to modify the Beyers-Knox combination with the feature "OSD-Background image magnification capabilities" as taught by Suga et al. because it provides for a more flexible display arrangement of background and OSD data.

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beyers, Jr. et al. (U.S. Patent No. 5,534,942) in view of Knox et al. (U.S. Patent No. 6,351,292), further in view of Shibamiya et al. U.S. Patent No. 5,926,174), and further in view of Suga et al. (U.S. Patent No. 6,215,4674).

As per claim 8, as applied to claim 4 above, the combination Beyers-Knox-Shibamiya teach all the limitations of claim 8, except for the magnification control section includes a circuit for also magnifying the first image data group. However, as cited above with reference to claim 6, Suga teaches this feature.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time invention was made to modify the Beyers-Knox-Shibamiya combination with the feature "OSD-background image magnification capabilities" as taught by Suga et al. because it provides for a more flexible display arrangement of background and OSD data.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hau H. Nguyen whose telephone number is: 571-272-7787. The examiner can normally be reached on MON-FRI from 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794.

The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2628

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

H. Nguyen

4/18/2007

KEE M. TUNG SUPERVISORY PATENT EXAMINER

Page 9